

REMARKS

As a preliminary matter, Applicant appreciates the allowability of claims 3-4 and 6-10.

Claims 1, 5, 11-12 and 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshmikumaran et al. (U.S. Patent No. 6,282,055). Applicant respectfully traverses the rejection because the cited reference fails to disclose (or suggest) "each of the grooves having a width which is greater than or equal to a width of an entire wall separating the grooves on both sides of each read/write gap line".

Lakshmikumaran is directed to a magnetic tape head with a combination bleed and transverse slotted contour. As previously argued in Amendment A, Lakshmikumaran fails to disclose the dimensional relationship of the present invention, namely $d \geq w \geq g$. Rather, Lakshmikumaran only discloses the dimensional relationship of $d > g > w$. However, the Office Action states on page 3 that $d > g > w$ is merely "preferable" dimensions, and that it is considered within the knowledge of the skilled artisan to have modified these dimensions appropriately. Support for this statement comes from Col. 4, lines 34-36 of Lakshmikumaran, which asserts that other locations and dimensions of transverse slots 20 and 38 and slotted regions 22 may be used.

Accordingly, the Office Action concludes that it would have been obvious to one having ordinary skill the art at the time the invention was made to have modified the width of the grooves to have been greater than or equal to the width of the entire wall portion separating the grooves. The motivation is that lacking in any obvious or unexpected results,

the formation of the groove dimension width to be equal to or greater than the wall would have resulted through the course of routine engineering optimization and experimentation. Applicants traverse this statement because the cited reference fails to recognize the groove dimension as relative to the width of the entire wall and depth of the groove as a result-effective variable.

MPEP 2144.05 II.B. states that “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, of what a determination of the optimum workable ranges of said variable might be characterized as routine experimentation.” Lakshmikumaran does not disclose or suggest any relationship between the groove dimensions (width and depth) and the width of the entire wall separating the grooves. In fact, Lakshmikumaran teaches away from the present invention by teaching preferred dimensions that have the groove dimension width to be less than the entire width of the wall. Accordingly, one would not be motivated through engineering optimization and experimentation to form the groove dimension equal to or greater than the wall because the groove dimension is not recognized as a result-effective variable, and also because the reference teaches away from using the dimensions of the groove and entire wall specified in the present application. Rather, Lakshmikumaran teaches that it is desirable to have a magnetic tape head having a contour that includes “...multiple bleed slots in combination with multiple transverse slots to effectively reduce separation losses.” (Col. 1, Ins. 42-45). “Preferably, the bleed slots of the first and second slotted regions are in fluid communication with the first and second transverse slots, respectfully.

Such a configuration maximizes removal of entrained air.” (Col. 1, lns. 59-62).

As discussed in Response C, FIGs. 2 and 5 of the present application illustrate one embodiment of a head for a magnetic tape which has a depth of a groove “d” that is greater than or equal to a width of the groove “w”. The width of the groove “w” is greater than or equal to a width of an entire wall separating the groove “g” on both sides of a read/write gap line. That is, $d \geq w \geq g$. Configuring the groove in this manner, and in particular the width and the depth of the groove, influences the amount of tape floating that occurs when the magnetic tape is traveling at a high rate of speed.

That is, as shown in FIG. 3 of the present application, the amount of tape floating does not appreciably increase when the traveling speed of the magnetic tape is increased. However, when the width “w” and the depth “d” do not satisfy the above conditions, then the amount of tape floating increases with an increase in the traveling speed of the magnetic tape. The fact that the dimensions between the groove depth “d”, the groove width “w”, and the width of an entire wall separating the groove “g” on both sides of a read/write gap line effect tape floating, is an unexpected result. Applicants recognized the criticality of these dimensions. Since Lakshmikumaran fails to recognize the dimension relationship between “d”, “w”, and “g” as it applied to tape floating, Lakshmikumaran could not optimize any of these variables to achieve reduced tape floating. For this reason, withdrawal of the §103 rejection is respectfully requested.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

November 19, 2004

300 South Wacker Drive - Suite
2500

Chicago, Illinois 60606


Tel: (312) 360-0080

Fax: (312) 360-9315

Customer No. 24978

P:\DOCS\0671\66008\701940.DOC

By



Joseph P. Fox

Registration No. 41,760